

EXCOM 82-7060
24 November 1982

MEMORANDUM FOR: Executive Committee Members

FROM : Dianne Rankin
Executive Assistant to the DDCI

SUBJECT : Agenda for 2 December 1982 Executive Committee
Meeting: Long-Range Planning, Phase IV

1. The Executive Committee will meet on Thursday, 2 December 1982, at 2:00 p.m. in the DCI Conference Room (7D64) to begin Phase IV of the long-range planning process. During this phase, components have been asked to project the support capabilities the Agency will require during 1985-1990. They have also been asked to outline the support implications of two personnel strength levels: the FY-1984 level of [] and the projected level for 1992, []

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2. Two papers are attached as a basis for Thursday's discussion: Personnel Planning for FY 1985-1990 (Tab A); and Phase 4 R&D Support (Tab B). A third paper on DDA support will be provided when available. A second session will probably be required to review that. (U)

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Attachments

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PHASE IV -- PERSONNEL PLANNING FOR FY 1985-1990

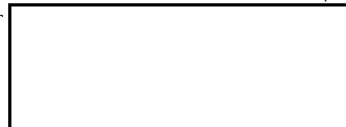
EXECUTIVE SUMMARY

1. The Agency has experienced an unusually low attrition rate in comparison to other government agencies, but managers should anticipate increases in personnel turnover. The Agency will be affected by the worsening comparability of Federal pay and benefits compared to the private sector. The prospect of foreign service is no longer as attractive to applicants as it once was. The greater prevalence of two-income families is affecting selection of employer and ability to accept assignments that change location. Increasing portability of retirement and health benefits may "unlock" employees now committed to Agency or Federal careers to assure their benefits. The growth of Agency programs is creating an increasing requirement for employees with engineering/technical/ADP skills who function as specialists in an environment that still tends to encourage "generalists" and who have alternative employment opportunities.

2. These shifts will increase the replacement requirement in general, will increase the recruiting emphasis on hard-to-get categories, and may increase the ratio of applicants-in-process per EOD.

3. Under these circumstances, Agency management should continue to take positive steps to assure obtaining and retaining the quality and quantity of employees needed to perform its missions. To this end, it should further identify and enhance the genuine job satisfactions Agency employees can realize. It must also address those factors that may tend to detract from the attractiveness of Agency employment. Among the ways of doing this, it is necessary to act on pending proposals to keep Agency compensation competitive, and to consider additional measures such as: reviewing and upgrading the benefits package, being sure that employees are fully aware of their available benefits, examining a possible broadening of qualifying service for the Agency retirement system, further reducing the family disruptions from overseas assignments, devising new personnel management approaches that are appropriate to the growing use of specialists, and considering new approaches for the retention--even on a part-time basis--of experienced employees eligible for retirement. Many of the problems of overseas life are already receiving concentrated attention from management, and appropriate adjustments are being made to compensation, other benefits, and the provision of information to families. The impact of the prevalence of two-income families on hiring, assignment, and career management policies is substantial and will have further effect. By positive action in such matters, management can preserve the Agency as an ideal employer seeking and obtaining full and effective effort from its employees in a changing social and economic environment.

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4. As the Agency achieves its expansion, there should be emphasis on efficient and effective use of its expanded resource base. To this end, there should be a conscious effort to measure and prioritize workload, to establish where applicable productivity goals for managers and units, and to create incentives for managers to focus on productivity.

5. Even an expanded Agency cannot provide the resources to cover all contingencies. This need somehow to provide resources in a contingency has drawn attention to ways to provide a "surge" capability. From a personnel viewpoint, such resources should be provided on a timely basis, should possess adequate knowledge and skills to step into the assignment, and should be cleared or quickly clearable. Of the options, those that seem most attractive involve current use of retirees on a part-time basis (expandable to full time in a crisis), use of part-time employees on a job-sharing basis (also expandable to full time in a crisis), and tracking the current status of retirees with special skills and knowledges that might be useful in a contingency.

6. The impact of further expansion of the Agency on the Office of Personnel can be gauged in the two limiting situations, 1) an Agency held to [] after FY 84 and 2) one expanding to [] by the end of FY 92. The two situations have quite different impacts on the Office of Personnel, whose size is affected about 3/4 by changes in the size of the Agency and about 1/4 by changes in the size of the recruiting and processing effort. The present recruiting and processing effort is adequate to provide 1400-1500 full time permanent EODs a year.* This level is adequate to support expansion of the Agency to [] by the end of FY 92 unless there is a major increase in attrition. If the Agency is held level after FY 84, a reduced level of EODs, on the order of 1000 a year, would be adequate and some reduction of the recruitment and processing effort would be possible, even allowing for an increase in the ratio of applicants in process per EOD. (S)

7. With consideration of these factors and the impact of the alternative Agency sizes on personnel workload, it is estimated that the Agency projection of [] would require only an increase of 40 above the present Office ceiling of 298. The projection of [] would require an increase of 94. (S)

8. The prospective sharp rise in Agency strength in FY 84 is a special case that cannot be accommodated with the present resource base in the Office for applicant processing.

9. In addition to these increases in the central Office of Personnel, there would be an increase in the number of personnel officers assigned to the components roughly proportionate to the increase in Agency size. To accommodate the necessary training of such officers, the Office of Personnel should have a development complement that would be in addition to the strength level required for central functions.

*An emphasis on job-sharing would increase the recruiting effort for part-timers significantly, however.

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10. There is a need to augment the budget of the Office of Personnel for non-personnel items, such as ADP support, office equipment, applicant travel, advertising, and R&D into new planning methodologies and statistical support for legal cases. Improved space arrangement, remedying the present dispersion of the Office, would increase the effectiveness of applicant processing, and would be absolutely necessary in the event of any further expansion of the Office.

I. The Changing Environment

A. The Way It Is

1. The Agency was created in the determination that in the nuclear age the United States must never be subjected to a "Pearl Harbor." This early charter dictated a strong emphasis on collection and analytic capabilities that would support the warning and alert function. With the passage of time, the United States found itself in a very complex world with multiple power centers. On a recurring basis, the policy-makers faced military, political, and economic decisions that had to be made with incomplete information. New and difficult tasks were laid on the Agency. The early preoccupation with the Soviet Union and the Peoples Republic of China became diffused with concerns for the Middle East, Southeast Asia, and competing industrial powers. Highly advanced technical collection systems were developed, producing masses of information to be processed. Advances in data processing made possible major improvements in data storage and retrieval and in systematic analysis. There were corresponding changes in the Agency's occupational structure that affected recruiting and training. The demand for employees with scientific-technical skills rose and is rising. The Agency's training capabilities also changed to provide those skills that could not be obtained from outside or to provide new skills for employees in the old cast.
2. Despite these changes, the original concept of a career personnel system has persisted, with emphasis on the word career. Employees were hired for their career capabilities as well as their immediate skills, a modified rank-in-the-person system was adapted from the military counterpart, an orderly promotion progression was sought, employees were trained and cross-trained as generalists with periodic reassignments to contribute to well-roundedness, and a generous package of benefits and services upheld employee loyalty.
3. The proof of the system has been remarkably low attrition rates, even for technical and scientific personnel. The "normal" rate has been on the order of 7 percent for all categories of personnel and as recently as FY 1981, the rate dropped to 4 percent. Rates this low ease the recruitment problem but complicate accommodating requirements for new skills. Low turnover also signifies better security because of a lesser number of employees with access to classified information.
4. This halcyon condition is likely to change in ways that will become apparent as soon as general economic conditions improve.

B. The Way It Is Changing

1. Within five years it may be relatively more difficult for the Agency to attract and to hold employees. The causes for this can be enumerated. Something can be done about some of them, if early action is taken. It is possible, however, that the current personnel system must be changed. For example, it is likely that the Agency may have to adapt to greater flow-through.
2. The following factors could make it more difficult to attract and to keep employees:
 - a. The Federal career is becoming less attractive than it was in the past. Federal reductions have weakened the perception of job security. Pay compression and pay lids seem a way of life. The costs of benefits to the employee have risen and the value of benefits has been reduced. Uncertainties abound as to what retirement benefits the employee can expect when finally ready to retire. The Federal government has not gone as far as the private sector in providing tax avoidance or deferment for compensation and benefits.
 - b. Existing employees will be less "locked in." Currently retirement plans and health benefits are not portable and this has facilitated the retention of the employee with five years or more service. The extension of Medicare and Individual Retirement Plans to Federal employees will increase the portability of key benefits and make it less of a sacrifice to resign to enter the private sector.
 - c. In the past, the disruptions of serving overseas were compensated by a higher standard of living and a generally positive foreign attitude toward Americans. However, the increasing devaluation of the U.S. dollar and a spreading adverse, or even militant, attitude toward Americans are making it more difficult to recruit people for work overseas and to assign existing employees.
 - d. The growing prevalence of the two-income family affects assignment and even retention. The Agency already is seeing the impact on overseas and domestic assignments. The retention of employees can be affected by the reassignment of an "outside" spouse. Circumstances leading to the resignation of an Agency employee may also lead to the resignation of a spouse who works for the Agency. (Double separations have been a recent phenomenon).
 - e. The growth of dual Agency careers for Agency employees and their spouses presents special problems. The increased numbers of qualified women in skilled Agency positions increases the likelihood of both spouses of a married couple having careers in the Agency. The growth of this phenomenon is presenting the Agency with problems involving dual

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assignments overseas, separated tours, or the preservation of the dominant career of an accompanying spouse. These challenges can only be expected to increase in future years.

- f. Changing societal values are resulting in changes in the values of today's employees when compared to employees hired in past years. Employees are now more likely to question the desirability of assignments than they were in past years. These questions involve not only career issues but domestic circumstances. Family satisfaction with facilities and services is now a much bigger issue in assignments involving relocations. As a result of these changes, the Agency will be increasingly faced with meeting employee demands for career satisfaction as well as family support in accomplishing employee reassignments.
- g. Despite the growing need for specialized skills, specialists may have difficulty competing with generalists for assignments and promotions. This affects retention. It also affects the outside perception of the Agency as a good place to work, because the word circulates, especially in professional circles. Skills must be utilized well and performance recognized adequately.
- h. With changes in social customs and values, the Agency may have to spend relatively more resources to find qualified applicants who meet our security and medical standards.
- i. Once the Agency's buildup stops, promotion rates inevitably will drop. Employees may find that promotions do not meet their expectation.
- j. The new Federal emphasis on discouraging early retirement, a discouraging environment for second careers, and growing pressure to permit workers to work as long as they are capable will all have the effect of raising the average retirement age for Agency employees. This in turn, by reducing retirements, will reduce the promotion rate. Disappointed employees may seek alternative employment. It is thus quite possible that retirement rates may stay low while resignation rates rise.
- k. Technical-scientific skills will figure prominently in the Agency recruiting requirement, but outside competition will be intense.
- l. The Agency may find significant numbers of resignations from the current crop of new employees. This assumes that the Agency may not have been the first preference for some of them. When economic conditions improve, and the preferred jobs become available, they may leave. Along similar reasoning, there may be some mismatches between new employees

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and their current assignments if the assignment was viewed as a "foot-in-the-door." These are significant problems for a system which attempts to match individual skills and job requirements.

3. On the other hand, there also are some factors that are favorable:
 - a. By using the DCI authorities and obtaining requisite funding, it is possible to improve the Agency's competitiveness for the kinds of employee desired.
 - b. The public perception of the Agency has been improving.
 - c. With the improving resource picture, the Agency need not give the image of a declining Agency.
 - d. There is a potential skill reservoir in our large retiree population.
 - e. Historically, Agency employees have recognized the need for high selection and performance standards in the Agency and have felt recompensed by compensation, benefits, and job satisfaction.
4. In a later section, there will be consideration of some possible management actions to deal with the anticipated situation.

C. Significance of Unlocked Employees

1. Of all the anticipated developments, the one with the most significance for personnel policy is the unlocking of our employees.
2. For 35 years, the Agency has benefited from a unique situation in which it could recruit and hold employees on a career basis. This has caused an unusually low attrition rate and correspondingly held down the costs of staffing. The career prospects have been sufficiently bright for young applicants, looking at excellent benefits and services, that they would put up with the long clearance and processing period before entering on duty.
3. Once aboard, the system basically worked to lock the employee in with a superior benefits package, especially retirement benefits, that was not "portable" to employment elsewhere, especially outside of Federal employment. After 5 years or so, the employee was so committed to a non-portable retirement system that the annual attrition rate dropped to two percent a year or less, and much of that attrition occurred as transfer to other government agencies. With such a stable and committed labor force, the Agency could retain policies such as unpaid overtime, more-or-less directed assignment, and security reinvestigations.

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4. Many things are happening now that will unlock the employees. These already have been itemized in the opening section. In summary, outside employment, when available, may be increasing in relative attractiveness because of the deterioration of the Federal benefits package. Some of the more significant benefits--retirement and health insurance--are being made more portable, which decreases the loss to the employee upon resignation. Thus Federal employees are being brought under Medicare, which is portable, and eventually perhaps Social Security. They now have been granted the right to establish Individual Retirement Plan accounts, which are fully portable and provide important supplementary income upon retirement. Our employees will feel less locked in to Federal and Agency benefits and more free to pursue career opportunities outside the Agency.
5. The projection of the Agency's future skill mix shows that it will be making more use of employees with specialized skills, especially in the technical, scientific, ADP, and professional fields. Such people may be more interested in professional career paths than an Agency career path, if not locked in. As a result, we may see more movement in and out of the Agency and less emphasis upon Agency careers, except for operations officers, certain types of support functions, and a core of managers.
6. The management implications could be significant. Applicant processing must be speeded up or we will find applicants less willing to wait. The screening criteria will be modified. Benefits must be made competitive with the private sector, or we will not attract and hold employees. Employees will be less patient with what are perceived as arbitrary management practices. Such practices should be identified and modified. More specialists will be hired and fewer generalists, reducing flexibility in assignment but increasing movement in and out of the Agency. Managers will become even more personally involved in good personnel practices to attract and retain effective employees.

D. Management Actions

1. Review and upgrade the Agency's benefits package.
2. Inform employees fully of their available benefits.
3. Keep Agency compensation competitive, including the upper grades (which will be no more locked in than the lower grades). The current proposal for an alternative compensation system is an important step.
4. Develop improved performance awards system.
5. Examine a possible broadening of qualifying service for the Agency retirement system.

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6. Lengthen overseas tours, except for hardship posts, and reduce number of disrupting moves.
7. Accept a greater degree of mobility in and out of Agency. Tie promotions to acquisition of skills, abilities, and responsibilities, not time-in-grade. Hire some specialists on basis of skills, not career potential, except in designated career fields.
8. Develop part-time work options for older employees not yet ready for full retirement. This creates headroom for promotion but retains skills. Such employees may even return to old--and needed--specialties. The Russian-reading manager might return to research on the Soviet Union, for instance. The part-time employee would have time available for home activities and new interests.
9. Management of specialists will take a special corps of cross-trained managers. Some will be needed at the Agency level (cross-trained in production, collection, and administration) and at the major functional levels (such as personnel managers cross-trained in personnel administration, personnel data base, planning, and quantitative analysis).
10. Management should strive to preserve the Agency's very special environment that demands much and receives much from employees in return for a perception of the Agency as an employer that is aware of the unique problems faced by its employees, makes an extra effort on their behalf, and enhances job satisfactions. Among the vital ingredients in this relationship are the feelings of teamwork, accomplishment, worth, and organizational vitality.

II. Productivity

- A. Improved productivity would reduce the number of employees required to accomplish a specified task, and thus would influence personnel planning. Of necessity, the responsibility for improving productivity is a key managerial responsibility that must be levied on all managers. The Comptroller's Office, which is concerned with programming and budgeting the use of resources, assumes a coordinating role in the drive for improved productivity. The Office of Personnel audits organizational use of personnel resources and frequently makes recommendations that might improve productivity through improved allocation of responsibility.
- B. The Agency's budget is quite people-intensive, with personal services taking 50-60 percent of the budget, so it is obvious that productivity improvement would have a significant effect on outlays. Previous studies have indicated that large portions of the Agency's work are amenable to workload measurement so that productivity might be tracked. Other portions are qualitative, less subject to measurement,

while some of the Agency's deployment of resources is necessarily of the watch and wait variety, where there may be little relation between personnel inputs and any tangible output. (S)

- C. In recent years, there has been a strong tendency for automation to replace the more routine tasks. This is especially true in the information handling field. In the near future, it is expected that there will be more movement toward the "electronic office" with corresponding changes in the use of secretaries and typists.
- D. Such trends have many implications for management. Some are:
 - 1. Make a deliberate effort, to take a systematic look at Agency operations, to identify target areas for productivity enhancement, to apply existing technology and sound management, and to budget the necessary resources.
 - 2. Emphasize the importance of including specific productivity goals in the Advanced Work Plans of managers.
 - 3. Develop and apply productivity measures where relevant.
 - 4. Develop deployment strategies that will enhance productivity. For example, retirees might work part-time on topics or geographic areas that must be monitored but currently are not of great policy interest.
 - 5. Create incentives for managers to focus on productivity. The system now tends to work against the manager who does more with less. If the unit is smaller, it may work against the grade call on the manager's position. Conversely, the manager who is expanding the unit may receive a higher grade call. Provide special recognition (promotion, awards) for managers who improve productivity.

III. The Surge Capability Problem

- A. The surge capability problem is a special aspect of the basic deployment problem. Suppose that a crisis or a change of policy dictates a rapid buildup in some kind of capability (production, collection, R&D, covert action...). With consideration of the length of time it normally takes to recruit and train an employee, what alternatives exist?
- B. Shift existing employees. This provides the most rapid response, especially if the employees are already cross-trained. There may not be enough of them and it may not be desirable to leave their previous functions uncovered.
- C. Call up "reservists." This borrows from the military concept, and like the military case, assumes there will be a minimal mobilization period. In the military case, the skills are of the kind that can be

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refreshed with periodic updates. In the intelligence case, the skills are more complex and the "reservist" probably would be a retiree with updated clearances and update briefings in some specialty field.

- D. Build the capability. Recruit and train employees either for the built-up capability or to fill in behind existing employees who are reassigned to provide the capability. This is a relatively lengthy process that would be too slow for most "surge" situations.
- E. Identify, monitor, and call-up specific retirees with needed skills. Many of our retirees move on to new careers in business, academic life, travel, and trade. They establish valuable contacts and may even develop additional language skills and geographic knowledge. Many work for think tanks and have other employments that require current security clearance. Some of them might even be encouraged to form corporations that would do contract work for government and business in the fields of country surveys, risk assessment, trade analysis, international travel and seminars. A system could be established to keep track of the current activities of retirees, necessarily with their permission, so that they might be called on in the event of special need. There would be many problems in such a system, but they may be capable of resolution. How could the Agency be sure that the desired people would be made available at the proper time? Would it have to control the corporations? Would it have to fund the corporations? Would it be able to make the corporations competitive with outside think tanks in compensation and benefits for retirees? If such questions cannot be resolved, the fall-back system is simply to deal with individual retirees, one-on-one. This presumes a rather complete data system on them, their current employment and specialty, and their current clearances.
- F. Use retirees as much as warranted as part-time employees. In a crisis, they probably would be available on a full-time basis.
- G. A relatively recent development in part-time employment known as "job sharing" may offer some assistance in providing surge capability, as well as helping the Agency to retain greater numbers of employees with current, valuable skills. Essentially, job sharing is an arrangement that allows a team of two employees to occupy one full-time position. Many companies have found that allowing employees to job share has tapped an additional pool of skilled employees who can't or won't work regularly on a full-time basis. Normally, a job sharing team will increase productivity by covering for each other during required absences. In addition, they provide a resource for additional work on a short term basis. Job sharing tends to provide more continuity through ensuring that a lost team member can be covered by expanding the hours of the remaining member who can also ensure adequate training for a new team member. It would appear that an assertive move by the Agency into the job sharing market would provide the Agency with an appreciable surge capability, in addition to other benefits. The question that must be answered is whether the benefits of job sharing are worth the added recruitment and screening efforts, as well as the additional time and effort devoted to PARs, pay, and other administrative support.

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- H. Of the options, the most attractive would be those related to tracking the current occupations of our retirees, related to using retirees on a part-time basis, and job-sharing.
- I. Development of surge capability is likely to be expensive, whichever option is employed. For that reason, the surge areas should be carefully defined and focused.

IV. The Resource Picture for Office of Personnel

A. Workload Considerations

1. The workload of the Office of Personnel is primarily affected by change in the size of the total employee population that is served and by changes in the annual level of EODs that is required for replacement and strength augmentation. About three-fourths of the Office relates to the first factor and about one-fourth to the second.
2. The material for the ten-year plan indicates strength requirements between [] With reference to current strength, [] on 30 September 1982, these are increases of 11 percent or 26 percent respectively. (S)
3. The current level of recruiting and processing capability supports an EOD level of 1400 to 1500 annually. If a strength of [] is reached by the end of FY 84 and maintained at that level thereafter, the requisite EOD level after FY 84 would be approximately 1000 a year for replacement purposes only. This would be a 29-33 percent drop from the current level. Because the ratio of applicants to EODs is expected to increase, the applicant processing load might fall a lesser amount, 20-25 percent. (S)
4. Reaching a ceiling of [] by the end of FY 92 would require annual EODs of [] or so, roughly the present level. With consideration of an increase in the ratio of applicants to EODs, the applicant processing load might increase slightly but would not fall. (S)
5. The Phase III contributions make it evident that the expansion would feature a disproportionately high increase in engineering/technical/ADP personnel. These are traditionally hard-to-get categories, so the recruiting task will be more difficult.
6. Operations Officer Career Trainees have required a substantial recruiting and processing effort. Under the projected plans, the major DDO augmentation would slacken somewhat after FY 84 and the resulting CT requirement, even if the Agency continued to expand, could be accommodated within existing capacity. The projected

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sharp increase in strength in FY 84 also would affect CT requirements and is a problem that will be discussed in the more general context.

7. It will be necessary to monitor closely trends in attrition. In the earlier discussion, it was suggested that the attrition rate may increase as part of a general trend tied into the decreasing attractiveness of Federal careers and greater portability of benefits, with the consequence of "unlocking" employees. Any substantial increase in outflow would impact on the workload of the Office of Personnel by increasing replacement requirements, and there would be additional impact should there be an increase in the difficulty of attracting qualified applicants who meet security and medical criteria.

B. Resource Considerations

1. If the Agency strength is held to [] after FY 84, the Office of Personnel would require an increase of ceiling of 40, which is only 10 more than the present strength (that is, [] plus 10). Though Agency strength would be 11 percent higher, a lower level of recruiting and placement would permit some offsets to support higher levels of effort on personnel actions, records, counseling, and employee services. []
2. If Agency strength is to climb to [] by FY 92, a 20 percent growth of strength in the Office of Personnel would be required to support an Agency 26 percent larger, and no offsets would be possible from the recruiting and placement side. This means an Office of [] 64 larger than at present but 94 above current ceiling. This compares to 350 in FY 68, when Agency strength in full-time permanent personnel was [] and there was less requirement than now for evaluation, counseling, retirement services, policy and planning, and record keeping.* (S)
3. If the projected Agency increase of some 1200 holds for FY 84, there will be a one-year problem for the Office of Personnel, which must somehow staff for a significant one-year rise in personnel activities (especially applicant processing) that will not be sustained in subsequent years. Full staffing to meet this challenge would result in an Office overstaffed for subsequent years. Understaffing would endanger meeting the FY 84 target for the Agency. Some form of temporary buildup, perhaps through temporary details, seems required. (S)
4. There will be a need to increase the portion of the OP budget for non-personnel items, such as ADP support, office equipment,

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applicant travel, advertising, and R&D into new methodologies. Within the planning period, it will be necessary to upgrade or replace the PERSIGN and related data base systems and to enlarge the field of data elements recorded on-line and in electronic storage. Data support to OGC in conjunction with employee litigation has burgeoned and will continue to increase. Additional analytic methodologies will be required by management to monitor hiring and promotion practices. Some R&D funding for the development of such methodologies will be required. The current drive to provide decentralized access (read-only) to the central data base will have future budgetary implications and will affect the skills required of personnel officers.

5. The prospects for continued expansion of the Office of Personnel and the requirements of efficient applicant processing and staff support to the Director of Personnel focus attention on the need for better space arrangements for the Office, which now is split geographically between Headquarters and Rosslyn.
6. In addition to these increases in the central Office of Personnel, there would be an increase in the number of personnel officers assigned to the components roughly proportionate to the increase in Agency size. To accommodate the necessary training of such officers, the Office of Personnel should have a development complement that would be in addition to the strength level required for central functions.

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CIA LONG RANGE PLANNING PHASE 4 R&D SUPPORT

19 November 1982

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CIA LONG RANGE PLANNING

PHASE 4

R&D SUPPORT

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OVERVIEW

This report, in effect, summarizes what has been said about R&D in other documents generated during the 1982 Long Range Planning exercise and draws also on several other applicable reports. After first establishing a background of appropriate reference material and briefly describing how the DS&T prepares an R&D plan, our capability to carry out a responsive R&D program is presented, along with some desirable improvements. (U)

The principal message then follows. This is the need for growth in our resources for research in five areas: microelectronics, power sources, high density storage, advanced information systems, and data compression. (C)

The report includes two attachments. Attachment I has been reproduced from an Intelligence Research and Development Council report on capability requirements. In Attachment II we have provided a brief review of some R&D activities that have been proposed for FY 1985. These proposals represent early planning for the eventual 1985 budget preparation. They were received as this report was being completed and are entirely preliminary in nature. (U)

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KEY JUDGMENTS

During the preparation of this report several factors relating to the CIA R&D program became clear. (U)

First was the need to emphasize some specific areas of research. Analyst productivity could be improved with the application of artificial intelligence to support automatic translation of written material, computer compatibility of written/pictorial information and presentation of machine-stored data. Imagery analysts need the use of advanced information systems, mass data storage and multi-spectral techniques. SIGINT collection and processing would benefit from advances in microelectronics, high density storage, artificial intelligence and power source technology. Critical needs in HUMINT collection, Covert Action and Counterintelligence, include data compression, new power sources and microelectronics. There is a need to continue R&D for General Support in areas such as the application of miniaturization to communications, of artificial intelligence to needs in data processing and information handling and in computer security. (S)

Secondly, the Agency's R&D effort requires a relatively modest boost in both people and funds now. The ratio of R&D resources to the total DS&T program then would remain relatively unchanged through the outyears although some change in emphasis might be expected. (C)

Third was the anticipated impact of new national programs. ODE responsibilities in support of new system developments plus CIA SIGINT supporting the CCP will necessitate additional people. However, the National Programs share of the S&T Program will also remain at approximately the present proportion. (S)

STRATEGY

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technologies and methodologies (e.g., microelectronics and
artificial intelligence) in the late eighties and early
nineties. Present estimates are that approximately [redacted]
officers and about a [redacted] increase in Technology
Development funds [redacted] will be necessary by 1992.
These resources would be split between the areas of analytic
methodologies and artificial intelligence applied particularly to
analyst productivity, and advanced microelectronics for small,
[redacted]
processors. (S)

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ODE currently has several new systems submitted for
consideration. In addition, there are a number of concepts for
future systems which technology currently cannot support, but
certainly will within the next five years. Quantitatively this
area offers the possibility of the greatest impact to the CIAP.
Under some concepts new groups will have to be formed to manage
the acquisition; in others, the activity will be absorbed within
an existing group and just augmented with resources. It is
probable that this area could require in excess of [redacted] positions
over the next eight years. Similarly, the CCP will be conducting
some large R&D efforts in the future which will impact upon the
CIAP, primarily in OSO. (S)

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A strong, imaginative, well-coordinated research and
development effort to support the DO HUMINT needs must be
assured. This R&D program must be complemented by a procurement
program sized to the projected HUMINT technical requirement needs
of the late eighties and nineties. Specifically, [redacted]
[redacted]

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additional resources in order to be productive. (S)

The planning mechanism already in use by the DS&T has been
successful in identifying consumer needs and relating them to
applicable R&D. We plan to continue this mechanism and look to
strengthen the technology requirements process. (U)

25X1 The overall size of the DS&T R&D program is [redacted] in FY-84--
25X1 slightly less than [redacted] of the total DS&T program. R&D is
expected to grow gradually through 1992 but will probably remain
at about [redacted] or slightly higher, of the total DDS&T
program during that period. Additional emphasis may be focused
upon targets such as nuclear proliferation, covert action and
counterintelligence. (S)

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BACKGROUND

During the past year a number of documents have been prepared that address CIA needs ranging from the most basic information gaps on foreign events and governments to administrative support. Most of these reports, some of them resulting from various phases of the 1982 Long Range Planning studies, reflect a need for research and development in at least some aspect. In Phase 4 we have examined each of those documents and have attempted to seek a strategy for R&D that reflects the needs coming out of them. The remainder of this section summarizes each document and the applicable R&D needs. (C)

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1985 Intelligence Capabilities Study

In this Community study thirteen specific intelligence challenges were identified, Community capabilities to address each were assessed and needed improvements were specified. The issues were:

1. The political, military, and economic policies and intentions of the Soviet leadership
2. The design of Soviet strategic and general purpose weapons
3. Soviet war-fighting doctrine, strategy and plans
4. Arms control treaty monitoring and verification
5. Indications and warning
6. Comprehensive, worldwide intelligence foundation: Data base and analytic capability



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9. Intelligence support to general nuclear war
10. Terrorism, espionage, and international illegalities
11. Surge capability
12. Manpower talent and productivity
13. Intelligence communications (S)

The report elaborated on each of these issues and, in some instances, implied a need for technical development. For example, under Issue 2, a need for improvements in [redacted] was identified. Additional technical support to clandestine HUMINT activities was called for in some cases as was improved analytic support. Although specific areas of R&D were not delineated the need for R&D was clear. (S)

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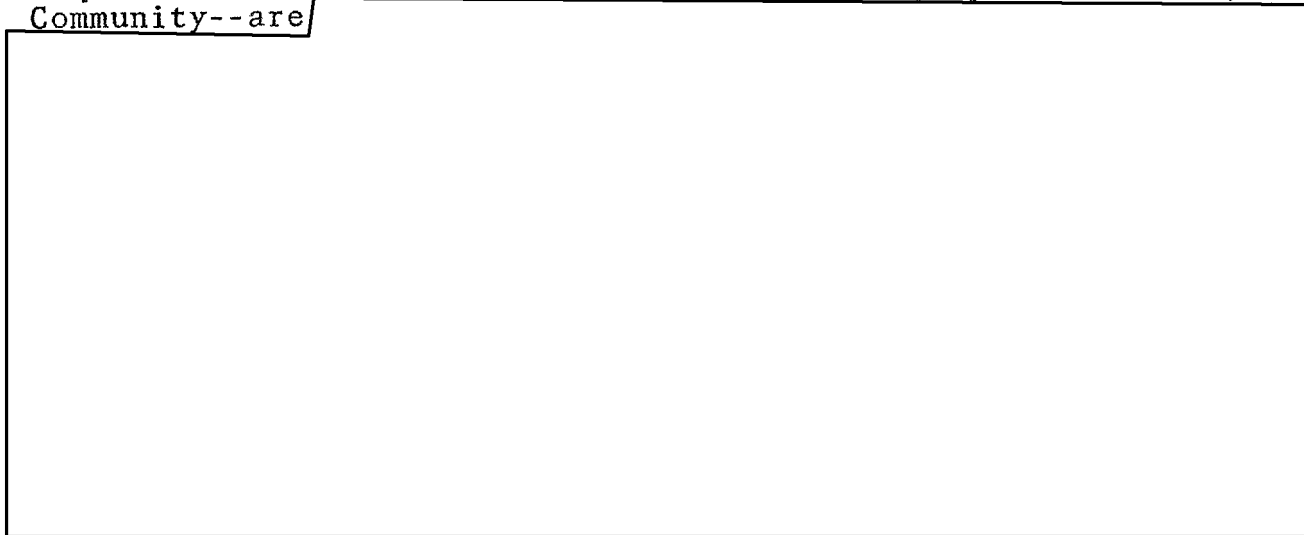
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Capabilities Against the Hostile Intelligence Threat, 1983-1988
(NSSD-2 Study)

This review was prepared in response to National Security Study Directive 2-82 ordering a review of the United States Capability to detect and counter the foreign intelligence threat. All agencies in the intelligence community were tasked to describe and evaluate their capabilities to counter this threat and to recommend additional measures to overcome deficiencies in their capabilities. (C)

To fully meet the growing threat it was determined that enhanced countermeasures are needed, including "...engineers to research and develop new and improved technical devices. . . . Among the technical supports that are available--or that will require research and development to assist the Intelligence Community--are

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CIA Long Range Planning for 1985-90/92 Phase 2--Target Overviews and Prioritized Information Needs

The DDI Phase 2 Long Range Planning Paper contained key findings about each of 13 geographic targets, three regional targets, and five global resources targets. In a section about changes in intelligence needs and priorities the DDI indicated that the trend toward a broader and more complicated range of intelligence topics in a larger number of countries would continue. Several other expected changes were indicated by the DDI. One dealt with prospective Soviet leaders and a second addressed the nuclear proliferation issue. (S)

The applicability of this document to R&D is apparent in several aspects. One is the severe challenge posed by the Soviets and the particularly critical aspect of Soviet S&T advances. Closely linked to this is a recurrent theme in the DDI paper toward information regarding plans and intentions. R&D initiatives that address these twin issues will be required. (S)

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Many of the global resources areas lend themselves to R&D in the form of analytical methodologies; political instability and energy and resources are primary examples. Additional R&D efforts are judged to be applicable against the problem of tracing international trade and finance. (S)

Long Range Planning--Phase III, Analytical Capabilities--
A Strategic Plan

The DDI Phase 3 Analytic Capabilities paper proposed a three-pronged strategy:

- an analytic workforce that is better and [] larger than it is today;
- a major expansion of information handling capabilities and computer-assisted tools to support the analytical process; and
- significantly more working space to accomodate this expansion.

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The paper also states the need to rebuild certain capabilities and create new ones including (1) an expansion of a research program on the Third World, (2) initiation of new research programs on foreign industrial competition, civil technologies, global aspects of technology transfer and the international arms market and (3) examination the roots of instability, terrorism, and insurgency with a view both to developing the capability better to forecast such developments and to devising effective means to combat them. The DDI paper also states that the analytic corps in general lacks the ability to use computer-assisted analytical tools and is insufficiently supported in its need for more sophisticated information handling capabilities. (S)

The DDI paper identifies several specific needs where R&D is applicable. The whole area of information handling capabilities and computer assisted tools is applicable. The role of artificial intelligence to support analyst productivity is clearly an R&D area, indeed an important one. R&D is needed to

[] the synergism of these systems is particularly suited to Agency R&D resources. (S)

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The need for analytical methodologies is cited to help analysts deal with major information gaps, identify trends and forecasts and provide early warning to policymakers. An example of this would be political instability. Another example would be strategies and methodologies for []

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(S)

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Long Range HUMINT Planning Objectives--
Paper Presented to EXCOM on 29 July 1982

This paper stressed the importance of HUMINT in intelligence collection and included the need for technical support. Proposals were presented for new ways to combine HUMINT and

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Long Range HUMINT Planning Objectives--
Presented to EXCOM on 1 September 1982

Potential enhancements in all elements of HUMINT collection were discussed. These are people, cover, technical support and management. With regard to technical support, recognition was made of the need for continued operational support provided by the Office of Technical Service and a growing need for information management and computer management tools. The DDO stressed a preference for the exploitation and adaptation of existing technology in the development of technical systems rather than attempting to create systems that are beyond current "state of the art". (S)

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Covert Action: Long Range Planning, 1982-1992

The Phase 2 CA effort set forth the view of world conditions and pressures on the U.S. which might give rise to both needs and opportunities for actions in support of overall U.S. objectives. The phase 2/3 CA paper contains a summary of key judgments including one on new technology. Essentially that judgment states that CA programs will be enhanced by employing current technology

(S)

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CIA Long Range Planning for 1985-90/92, Phase 3,
Collection and Processing Alternatives

In this report the DDS&T presented an analysis of the DDI Phase 2 report on information needs, relating those needs to the applicability of technical collection and processing alternatives. In those alternatives where research and development is required, the areas of required R&D were identified. The principal needs discussed were as follows:

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CIA Long Range Planning for 1985-90/92, Phase 3b Tech Collection

The DDS&T proposed a technical collection investment strategy that responded to the DDI Phase 2 information needs. It included the programmed capability and additive improvements for R&D. These efforts include:

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Long Range Planning Phase III Summary

The Phase III summary paper summarized the five Phase III studies on analytical, counterintelligence, covert action, HUMINT, and technical collection capabilities. It described the major themes that were common to the studies, derived seven goals and presented alternative strategies. Among the goals was the following statement regarding technology: "Achieve substantial improvements in the security of agent operations, counterintelligence measures, and analysis through applications of technology and machine-assisted methodologies." The paper pointed out the need to continue the implementation of methodologies to help the analyst, to strengthen the D0 technology requirements process and increase its impact on program decisions for the development and procurement of agent equipment and to apply technology to covert action and counterintelligence. (S)

DDA Phase 4 Long Range Planning Report - 1982

During the Phase 4 R&D effort a preliminary set of papers prepared by DDA offices was examined to see if there was any obvious impact on an R&D strategic plan. The following observations must be viewed as tentative due to the preliminary nature of those papers. (U)

The OC paper dealt with the communications networks of the future. The communications explosion in the commercial sector plus the ongoing DDS&T R&D effort toward [REDACTED] will probably satisfy OC needs in this time period. (C)

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The problem issues named in the ODP paper concern space, training, funding, clearance procedures, outbuilding computer support and security. Although no specific R&D needs were identified it is believed ongoing DDS&T efforts relating to artificial intelligence may be applicable to ODP needs in the future. Computer security will also continue to be an area of mutual ODP and DDS&T concern. (C)

The Office of Information Services has identified several long term efforts that will benefit from or, at the very least, interact with ongoing DDS&T R&D efforts. OIS clearly faces a formidable task in transitioning to the electronic mail era. The development of a new TRIS (The Records Information System) could benefit from some ORD work on data bases. The OIS paper also states that "expert systems resulting from rapid advancement in artificial intelligence (AI) research will be used in the disposition scheduling of electronic mail." This is another subject applicable to R&D efforts already underway in AI. (C)

The OMS paper cites existing work with ODE and NPIC regarding human factors interfaces with the IDEX program and the NPIC development program. Research in man-machine interfaces will continue in a cooperative manner between OMS and the appropriate DDS&T office. (C)

Security issues are addressed not only in the OS paper but alluded to under the broader scope of counterintelligence. R&D applicable areas include enhancement of technical equipment

[REDACTED]
security. (S)

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There were no specific R&D support efforts identified in the Office of Logistics, Office of Training and Education nor the Information Handling System Architect (IHSA). (U)

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PLANNING FOR R&D

A research and development plan must address separately the two elements involved. Research in the CIA is intended to investigate new technologies and to apply existing technologies to consumer needs. This work is carried out primarily by the Office of Research and Development under the Technology Development program. It is designed to provide the potential for future development efforts, the other element of R&D. A developmental program is, generally, one that is intended to solve a specific problem. It may be a unique collection system, or part of one, or it may involve a new computer-based methodology to be used in intelligence analysis. In some cases a single collection target may be involved. (C)

R&D planning, therefore, takes on two forms. Planning for development looks to the near to intermediate future. The near term requirements are usually fairly well defined since they involve needs based on current knowledge. As time passes, however, this knowledge of changing world events necessitates modification of some development plans. Planning for the intermediate term is, therefore, less certain than that for the near term. (U)

Planning for research looks at the long term. It must provide a capability to be prepared to satisfy needs at some indeterminate future time. It is this element of R&D that is more amenable to long range planning and is, therefore, the principal focus of this paper. (U)

Nearly all of the Agency's R&D is carried out in the DDS&T. In order to address the many R&D needs within the inevitably limited resources available, this Directorate has, for some years, followed a structured annual R&D planning cycle. (C)

The planning process comprises four major steps:

- a. Approximately 18 months prior to the Congressional Budget submissions the consumers are asked to identify their intelligence needs 5-7 years in the future.
- b. Based upon the stated requirements an R&D approach(s) is identified which may be in either Research, Development or a combination of both.
- c. The solutions deemed most feasible are coordinated with and ranked by the consumers along with continuing efforts.
- d. Based upon all of the above, a consolidated R&D program for submission in the Congressional Budget is formulated. (A/IUO)

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PROGRAMMED R&D CAPABILITY

The Office of Research and Development (ORD) is responsible for conducting general research and exploratory development in support of intelligence collection, processing, and analysis. This R&D is grouped into five categories: analytical methodology, Imagery, SIGINT, HUMINT, and General Support. (S)

Research activities concerned with the development of advanced analytic methods in support of intelligence production include the Intelligence Production Laboratory and research on political analysis methods, with special emphasis on terrorism and political instability. Also supported are a variety of methodology developments concerned with military analyses and geoeconomic resource assessments. Salient projects in these areas include development of an advanced capability to assess

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Under general support, programmed capability exists for research and technology development in the areas of [REDACTED] and polygraph work. The Agency's future information processing systems will be supported by a research and development program applied to the areas of computer security, end-user/analyst computer-based tools, and information systems architecture. ORD will continue to develop the capability [REDACTED]

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[REDACTED] and to address research issues associated with geographic data bases needed to support both intelligence analysts and cartographers. In addition, advanced data base techniques, computer-aided instruction, advanced system development methodologies, and computer-based tools for analysts will be developed. [REDACTED]

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Specific R&D - NPIC, OD&E, OTS and OSO conduct specific R&D programs. These programs respond to increased processing needs (NPIC Upgrade, IDEX), unique collection against high priority intelligence needs, and support to HUMINT. (S)

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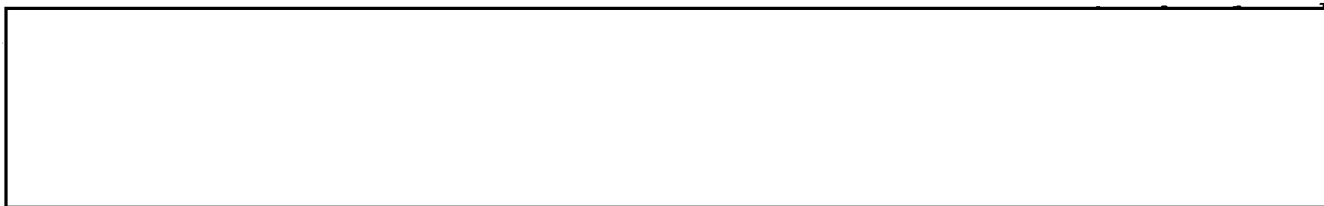
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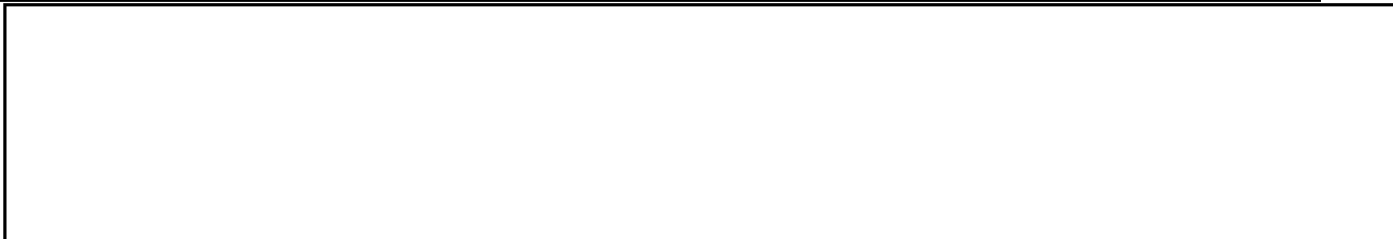
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- Artificial Intelligence



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- Physical Security

It is apparent that the Imagery and SIGINT baseline to 1992 and the alternatives proposed in other parts of the Phase 3 paper dictate the use of large quantities of highly automated electronic hardware. The Community's experience with this type of automated hardware and the probable Soviet attempt to exploit it indicates a strong need for a consistent, efficient, cost effective approach to TEMPEST security. A massive influx of new electronic hardware demands an innovative approach to TEMPEST security. (S)

Most of the Phase 3 proposals require more development than research. In the Phase 3b report on Tech Collection, on the other hand, the emphasis in Additive Improvements was placed on research. The following is taken from that document:

HUMINT



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Imagery Exploitation

[REDACTED]

As with the more general issue of analyst productivity discussed below, the enhancement of the imagery analyst's productivity hinges on applications of automated information handling, including advanced information systems, mass data storage, [REDACTED] (S)

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Advanced Information Systems involve applications of the latest advances in computer science hardware and software and, in particular, application of Artificial Intelligence and Data Management techniques. Required Artificial Intelligence applications range from image interpretation aids to aids in report generation. Data Management techniques will need to be

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25X1 [redacted] all with an easy user interface. Mass
Data Storage, and the associated fast retrieval and array
processing of the data, are required as an integral part of any
25X1 sensible application of automated information handling to image
exploitation. [redacted]
[redacted]

Analyst Productivity

The increasing sweep of world events and the leadership position which the United States must maintain requires that intelligence coverage be continually broadened. To achieve this within resource constraints, it is essential to improve the productivity of the analyst. The technological revolution permits collection volume to increase. Ultimately, however, it is the all-source analyst who must digest the information. To achieve the requisite increase in analyst productivity will require the elimination of labor intensive jobs, an improvement in training techniques, and an improved "work station" environment. (S)

In general, automated information handling--to a much higher degree than is now contemplated--must be applied on the analysts' behalf. This is largely just a development effort; computer advances from the commercial sector are waiting to be applied. However, their proper application depends on advances in three particular technologies: Artificial Intelligence, Computer-Aided Instruction, and High Resolution CRTs. (U)

Artificial Intelligence in its broadest sense should be pursued for automated translation of written material, computer compatibility of written/pictorial information and fast scan and presentation of machine-stored data. Computer-Aided Instruction (CAI) must be extended to verbal production and recognition and such language instruction embedded into the workplace environment so that the analyst can more easily work with original language materials. Finally, much higher display resolutions with added flexibility are required for text manipulation, facsimile text, and for all-source exploitation including imagery. (C)

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TECHNOLOGY CONSIDERATIONS FOR
IMPROVED INTELLIGENCE CAPABILITIES

In January 1982 the DDCI and the Chairman of the Intelligence Research and Development Council (IRDC) jointly determined that a review of major Intelligence Community R&D programs being formulated in response to the 1985 Intelligence Capabilities Study was required. The major emphasis of the review was to assure that (1) emerging technologies are adequately utilized or (2) determine which technologies need increased emphasis to achieve the required level of maturity by 1985-1990. (C)

An organizational structure was created comprising representatives from DARPA, DIA, a national program, CIA, NSA, DoD and the IC Staff. This group identified and then reviewed the technologies applicable to the thirteen intelligence categories resulting from the 1985 Intelligence Capabilities Study. After excluding those technologies unique to the national programs they singled out two of them considered to be particularly important: information processing, especially artificial intelligence, and micro-electronics. (S)

We believe that the results of this study, which was published in October 1982, are particularly applicable to long range planning for research in the CIA. They appear to reflect the essence of the needs as we see them. For example, the matrices on the next two pages were prepared by the CIA representatives to the study panel. The first presents the thirteen Intelligence Challenges against appropriate CIA program contributors. The second intersects those contributing programs with the appropriate technology which will properly support the Agency's response to the challenge. (C)

The CIA team addressed these questions:

- Where would we like to be with collection systems and analysis in 1990, substantially and functionally?
- How do we get there technically?
- Will current programs be adequate?
- What technologies/techniques need emphasis to provide a giant step in improvement?

The following paragraphs summarize the findings of the CIA panel. The CIA tab is at Attachment I. (C)

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Analyst Productivity

It was proposed that we improve the productivity of the intelligence analyst by pursuing artificial intelligence in its broadest sense to support:

- Automatic translation of written material - which involves pursuit of natural language understanding and interpretation of non-stylized materials.
- Computer compatibility of written/pictorial information - Where, today, character recognition is slow, intolerant of noise on the page, and font-limited, what we need is more engrossing character or concept recognition and storage across languages.
- Fast-scan and presentation of machine-stored data - In order to properly use the computer to exploit the massive corpus of open-source literature, we must expand key word and high speed text search techniques to high level concept identification.
(C)

Image Exploitation

It was proposed that we improve the productivity of the imagery analyst by providing:

- Advanced information systems - which involve applications of the latest advances in computer science hardware and software and, in particular, application of Artificial Intelligence and Data Management techniques. The Artificial Intelligence applications will range from image interpretation aids to aids in report generation.

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- Mass data storage - and the associated fast retrieval and array processing of the data are an integral part of any sensible application of automated information handling of benefit to image exploitation.

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SIGINT

The four basic recommended technologies are as follows:

-

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ATTACHMENT I

The following pages are reproduced from the CIAP Tab of "Technology Considerations for Improved Intelligence Capabilities," prepared for the Deputy Director of Central Intelligence by the Intelligence Research and Development Council Technology Working Group, October 1982.

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INTRODUCTION

The thirteen Intelligence Challenges for the 1985-90 time frame were recently addressed in the 1985-90 Capabilities Study. In this study, programs and additive improvement to these programs are identified which could contribute to meeting these future challenges. The improvements are prefaced by a strong R&D program to bring the relevant collection program areas to their potential. This program must be highly leveraged to guide infant, yet critical, technologies into the Intelligence Community arsenal by a time frame consistent with the one outlined in the 1985-90 Capabilities Study.

The present CIA R&D program is a broad-based one ranging from techniques for the rapid fabrication of custom, high performance integrated circuits to chemical-based secret writing systems. Technologies are pursued for program areas such as clandestine collection of SIGINT, audio surveillance, disguise techniques and power sources to name a few. In most cases, the formal CIA 1982-85 technology plan is adequately formed to sustain a viable effort in all the traditional program areas. However, there are a number of identified new initiatives which would require or benefit from the resource leveraging and proper directing of some of the emerging technologies.

The following matrix presents the thirteen Intelligence Challenges against appropriate CIA program contributors. This is followed by a second matrix intersecting those contributing programs with the appropriate technology which will properly support the Agency's response to the challenge. The body of the paper presents the technologies and their contribution in detail.

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IMAGE EXPLOITATION

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Recommended Approach:

As with the more general issue of analyst productivity, the enhancement of the imagery analyst's productivity hinges on applications of automated information handling.

It is proposed that we improve the productivity of the imagery analyst by providing:

- Advanced Information Systems - which involve applications of the latest advances in computer science hardware and software and, in particular, application of Artificial Intelligence and Data Management techniques. The Artificial Intelligence applications will range from image interpretation aids to aids in report generation.

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- Mass Data Storage - and the associated fast retrieval and array processing of the data are an integral part of any sensible application of automated information handling of benefit to image exploitation.

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ANALYST PRODUCTIVITY

Problem:

The increasing sweep of world events, and the leadership position which the United States must maintain requires that intelligence coverage be continually broadened. To achieve this within resource constraints, it is essential to improve the productivity of the analyst. The technological revolution permits collection volume to increase. Ultimately, however, it is the all-source analyst who must digest the information.

To achieve the requisite increase in analyst productivity will require:

- the elimination of labor-intensive jobs;
- an improvement in training techniques; and
- an improved "work station" environment.

Recommended Approach:

In general, automated information handling--to a much higher degree than is now contemplated--must be applied on the analysts' behalf. This is largely just a development effort; computer advances from the commercial sector are waiting to be applied. However, their proper application depends on advances in three particular technologies.

It is proposed that we improve the productivity of the intelligence analyst, through elimination of labor-intensive efforts, by pursuing artificial intelligence in its broadest sense to support:

- automatic translation of written material - which involves pursuit of natural language understanding and interpretation of non-stylized materials;
- computer compatibility of written/pictorial information - where, today, character recognition is slow, intolerant of noise on the page, and font-limited, what we need is more engrossing character or concept recognition and storage across languages; and
- fast scan and presentation of machine-stored data - in order to properly use the computer to exploit the massive corpus of open-source literature, we must expand key word and high speed text search techniques to high-level concept identification.

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As aids to supporting both the training and productivity of intelligence analysts, we must develop:

- Automated Aids to Language Instruction. We must extend Computer-Aided Instruction (CAI) to verbal production and recognition and embed such language instruction into the workplace environment so that the analyst can more easily work with original language materials. In this effort, it will be important to define the cost-effective allocation of man/machine resources for efficient language skill training and for translation.
- High Resolution CRT's. Much higher display resolutions are required for text manipulation, facsimile text, and for all-source exploitation including imagery.

Technologies:

To follow through on the logical course of enhanced automation, the three technologies which must be advanced for the particular needs of the intelligence analyst are:

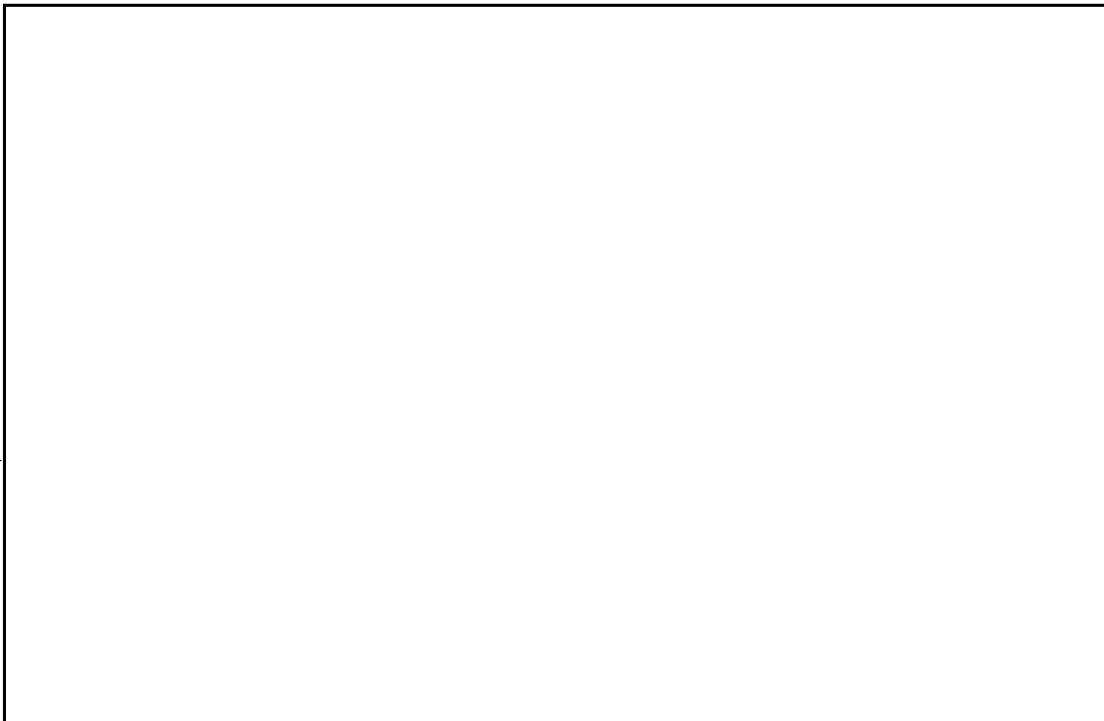
- Artificial Intelligence. Under a variety of names (smart systems, knowledge-based systems, expert systems) this field of advanced computer science refers to imbuing computer programs with more and more specific knowledge about the problem at hand. At the same time, for the approach to work, the scope of the problem at hand must be substantially delimited. In a sense, the approach is to have the computer "know more and more about less and less." A primary benefit of the explicit incorporation of knowledge in computer programs is that it "institutionalizes" that knowledge and makes the reasoning behind analytic judgement based thereon more and more visible to the policy/decision maker. Four categories of application appear to be ripe at this time: (a) expert interfaces to complex models; (b) smart front-ends to complex data bases; (c) image/signal "understanding;" and, (d) provision of more easily maintained software.
- Advanced Computer-Aided Instruction. The promise of Computer-Aided Instruction (CAI) is so far unfulfilled. The computer has proved useful as a master of repetitive drill. Now, however, as the analyst's workplace comes to center around the computer terminal,

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and as all information comes to be accessible therefrom, CAI could take on a new dimension. CAI could be a natural part of work routine, rather than separate from it. Examples could be real ones using real data, actual original language materials, etc. Progress could be remembered by the computer and prompting could go forward, on subsequent sessions, from the plateau at which the analyst had previously arrived.

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ATTACHMENT II

FY 1985 R&D Initiatives

ATTACHMENT II

FY 1985 R&D INITIATIVES

The portion of the R&D planning cycle preparatory to the FY 1985 program call has been underway since August 1982. R&D requirements have been passed to the appropriate DDS&T R&D offices and the first proposals have just been received. A complete set of proposals will then be passed to the customer offices for review. Although it is premature to speculate exactly which of these many R&D proposals will eventually survive the customer review process, the FY 1985 program scrutiny and unknown budgetary constraints, some insight is available into the general sense of these proposals. Several examples are presented in the following paragraphs. (C)

ORD has submitted numerous proposals under their Information Systems Program. Most of these are applicable to DDA needs but other extend to DDI and DDS&T also. These proposals include guard device technology (computer security) hardware component verification, secure fiber optic bus communication system, on-line data base encryption, mass storage, a computer laboratory facility, advanced text processing and retrieval, enhanced analyst access to large data bases and several others. (S)

Proposals submitted which deal with control of sensitive information include document control and protection, destruction of non-paper storage media, optical systems and advanced threat and application studies. (C)

Several proposals have been submitted in response to Polygraph requirements. They include polygraph enhancements to determine how psychological assessments can best be used to enhance polygraph tests performed on agents; efforts to reduce the amount of time spent on interrogation; [REDACTED]

(S)

ORD has proposed numerous analytical techniques to support the DDI analyst in disciplines such as strategic resources, military measures of effectiveness, military industrial assessment and military telecommunications assessment. As part of their response to DDI political and social science needs, ORD has proposed political analysis research in areas such as typologies of political environment, models of political groups and social movements, identifying critical stages of governmental or policy change, and terrorism and the media. Finally, some examples of ORD responses to DDI science and technology analysis needs include [REDACTED] Soviet industrial espionage and exploitation of technology; and covert international transfers of nuclear skills, technology, and materials. (S)

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